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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/705,466	11/03/2000	Edward C. Fisher	TI-24980	6798

23494 7590 09/16/2003

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EXAMINER

THAI, LUAN C

ART UNIT	PAPER NUMBER
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2827

DATE MAILED: 09/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center"><b>Office Action Summary</b></p>	<b>Application No.</b> 09/705,466	<b>Applicant(s)</b> FISHER ET AL.	
	<b>Examiner</b> Luan Thai	<b>Art Unit</b> 2827	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 July 2002 and 27 June 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 11-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-10 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
       Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
       If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
       a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
           1. ☐ Certified copies of the priority documents have been received.  
           2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
           3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
       \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
       a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

This Office Action is responsive to the Appeal Brief filed June 27, 2003.

After the further review of the application, the Examiner feels that some reference is needed for the proof of the obviousness applied in the previous Final Office Action, paper number 9, dated 10/24/02. Therefore, the above-mentioned Final Office Action is hereby rescinded. The Examiner regrets for any inconvenience may have caused by the new Final Office Action. The new Final Rejection based on the cited prior arts and newly cited reference(s) is following.

1. Claims 1-16 are pending in this application.
2. Claims 11-16 have been withdrawn from the consideration as being directed to non-elected invention.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chun (5,644,169 of record) in view of Glenn et al. (5,962,810).

The figures and reference numbers referred to in this office action are used merely to indicate an example of a specific teaching and are not to be taken as limiting.

Regarding claims 1-3 and 7-10, Chun teaches (specifically see figures 1 and 2, Col. 1, lines 19-67 and Col. 2, lines 1-33) a method of protecting a micro electronic device comprising the steps of: attaching a device (3) to a package substrate (1); the device (3) (e.g., CCD chip) having a debris-intolerant region on its top surface (noted that chip 3 (in figure 1) and chip 11 (in figures 3) are similar in structure). Since the CCD chip (3) is cut from a wafer by a sawing process (Col. 1, lines 45+), the side surfaces (e.g., sidewall) of the CCD chip (3) are considered as the debris generating regions of the chip. Chun further teaches a step of electrically connecting bond pads on the substrate (1) with bond pads on the device (3) by using bond wires (5), attaching a package lid (7) (e.g., transparent lid) to the package substrate (1) (see Col. 1, lines 19-67 and Col. 2, lines 1-33). Chun (regarding figures 1 and 2) fails to teach the step of encapsulating the side surfaces (e.g., sidewall or the debris generating regions) of the CCD chip (3) by a *blocking material*.

Glenn et al. while related to a similar process of protecting a micro electronic device teach (see specifically figures 1-3) the step of encapsulating the side surfaces (22) (e.g., the debris generating regions) of the CCD chip (14) (Col. 1, lines 21+), the bond wire (18), and the bond pads (17/19) by using a photo-curable adhesive blocking material (20) (e.g., silicon rubber number 3140 from the Dow Corning Company, Col. 5, lines 12-21), wherein the blocking material (20) is avoiding contact with the debris-intolerant region (24) (Col. 4, lines 52-55 and Col. 6, lines 47-52) in order to *cover and protect* the side surfaces (e.g., the

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debris generating regions) of the CCD chip and the bond wires which connect the bond pads of the chip and the substrate (Col. 4, lines 34-61). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the process of Chun by applying the step of encapsulating the side surfaces (e.g., the debris generating regions) of the CCD chip with a photo-curable adhesive blocking material, as taught by Glenn et al., in order to *cover and protect* the side surfaces (e.g., the debris generating regions) of the CCD chip and the bond wires which connect the bond pads of the chip and the substrate.

Regarding claim 4, since Glenn et al. teach the adhesive blocking material (20) being a silicon rubber number 3140 from the Dow Corning Company (Col. 5, lines 12+), this material is inherently a photo-curable adhesive material (Noted that US Patent No. 4,047,045 to Paxton et al., Col. 6, lines 33+, is cited to support the statement above).

Regarding claim 5, Glenn et al. further teach the adhesive blocking material being a silicon rubber number 3140 from the Dow Corning Company or a Hysol 4451 from Hysol Corporation (Col. 5, lines 12+), which inherently has a tacky characteristic and this adhesive would be obvious to include a getting function.

5. The following reference(s) is/are cited as of interest to this application:

U.S. Pat. No. 6,169,328 (of record) to Mitchell et al. is cited for showing the Hysol adhesive (epoxy) to have a tacky characteristic (Col. 14, lines 24+, and Col. 6, line 33+).

***Allowable Subject Matter***

6. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is an examiner's statement of reasons for allowance:

The prior arts taken either singly or in combination fail to anticipate or fairly suggest that which the Applicant claims in claim 6 in a manner which would warrant a rejection under 35 U.S.C. § 102 or 35 U.S.C. § 103.

There was no prior art found by the examiner that suggested modification or combination with the cited prior art so as to satisfy the combination of the present claim 6. Especially, the prior art does not provide a step of removing the blocking material from the debris-intolerant regions, after the step of encapsulating portions of the device with the blocking material, as recited by claim 6.

***Conclusion***

8. Applicant's arguments with respect to claims **1-5 and 7-10** have been fully considered, but they are deemed to be moot in view of the new grounds of rejection.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action because the newly added limitations (e.g., the underlined portions) of independent claim 1 (regarding the Amendment filed July 12, 2003) raise new issues

that would require further consideration and/or search. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

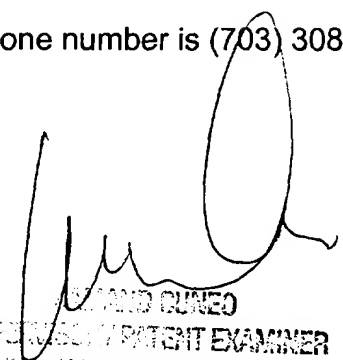
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luan Thai whose telephone number is (703) 308-1211. The examiner can normally be reached on 6:30 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (703) 308-1233. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Luan Thai  
September 5, 2003



ALFRED GUNED  
SUPERVISOR / PATENT EXAMINER  
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